

VACUUM/PRESSURE SWITCH OR TRANSMITTER

WITH BACKLIT LCD PRESSURE INDICATION

SERIES ZSE4/ISE4B

- ✓ Large LCD display shows actual pressure and permits easy setting of ON/OFF
- ✓ Series allows choice of applicable pressure range and output type
- ✓ A variety of switch output modes can be selected by push button settings
- ✓ Display can be set to show peak or minimum pressures during normal operation
- ✓ Complete self diagnosis with error indication
- ✓ Panel mountable



TECHNICAL SPECIFICATIONS

	Vacuum Models	Pressure Models 1 bar (100kPa)	Pressure Models 10 bar (1.0 MPa)
NPN output	ZSE4B-01-25L	ISE4LB-01-25L	ISE4B-01-25L
PNP output	ZSE4B-01-65L	ISE4LB-01-65L	ISE4B-01-65L
Analogue output	ZSE4B-01-26L	ISE4LB-01-26L	ISE4B-01-26L
Operating pressure range	+10 to -101kPa (+75 to -760mmHg)	-0.1~1 bar	-1~10 bar
Minimum pressure	+2 bar (200kPa)	2 bar (200kPa)	10 bar (1.0 MPa)
Minimum displayed unit	mmHg: 5 PSI: 0.1 bar: 0.01 kPa: 1	kgf/cm ² = 0.01 PSI: 0.1 bar: 0.01 kPa: 1	kgf/cm ² = 0.1 PSI: 1 bar: 0.1 MPa: 0.01
Switch indicator	ON (green light)	ON (green light)	ON (green light)
Response frequency	200Hz (5ms)	200Hz (5ms)	200Hz (5ms)
Differential (NOTE 1)	(not analogue output model) min 3 units of display	(not analogue output model) min 3 units of display	(not analogue output model) min 3 units of display
Fluid	Air, inert gas	Air, inert gas	Air, inert gas
Temperature characteristics	+/-3% F.S	+/-3% F.S	+/-3% F.S
Repeatable accuracy	+/-1%	+/-1%	+/-1%
Power supply	DC12-24V (less than or equal to ripple 10%)		
Current	45mA		
Error display	Red LED + displayed error code on LCD		
Operation temp. range	0~50°C		
Noise resistance	1000Vp-p pulse width 1 micro standing 1rs		
Insulation strength	AC1000V 50/60Hz (1mj)		
Insulation resistance	2MΩ (DC500V by megger)		
Vibration resistance	10-500Hz width = 1.5mm or acceleration 10G to X, Y, Z direction (2 hours)		
Shock resistance	100G, X, Y, Z		
Weight	45g		
Port Size	R (PT) 1/8, M5 x Male and M5 x 0.8 Female		

NOTE 1:

Minimum Differential

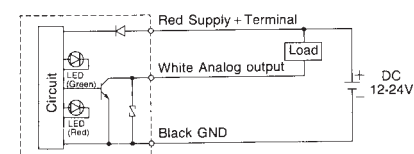
- Hysteresis mode: When P1=P2>P2 by less than three units, differential is automatically set at three units of P1 display
- Window mode: Differential is fixed at three units of the display

OUTPUT SPECIFICATIONS

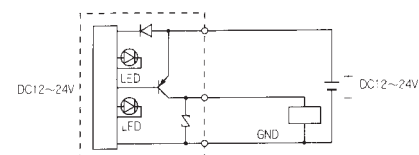
Model	Item	Output Method	Output Specifications
ZSE4B-01-25	Vacuum	NPN output	NPN open collector 30V, 80mA, residual voltage: 1V or less
ZSE4B-01-26		Analog output	1~5V (±5%F.S.), load impedance : 1kΩ
ZSE4B-01-65		PNP output	PNP open collector 80mA
ISE4LB-01-25	Positive pressure 100kPa	NPN output	NPN open collector 30V, 80mA, residual voltage: 1V or less
ISE4LB-01-26		Analog output	1~5V (±5%F.S.), load impedance: 1kΩ
ISE4LB-01-65		PNP output	PNP open collector 80mA
ISE4B-01-25	Positive pressure 1MPa	NPN output	NPN open collector 30V, 80mA, residual voltage : 1V or less
ISE4B-01-26		Analog output	1~5(±5%F.S.), load impedance: 1kΩ
ISE4B-01-65		PNP output	PNP open collector 80mA

OUTPUT CIRCUIT AND WIRING

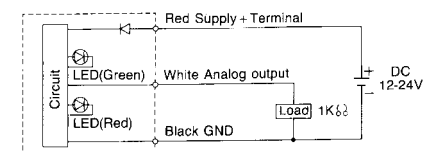
Switch Output Type (-25)



-65 PNP



Analog Output Type (-26)



PRECAUTIONS:

- 1 When handling the switch, hold the body, not the wire. Electrical cable must not be subjected to excessive force.
- 2 When connecting the switch, use a spanner on the hexagon fitting. NEVER use tools on the switch body.
- 3 Do not use switch near corrosive materials.
- 4 The switch is not liquid sealed. Protect from rain, dew, spray or use enclosed type ZSE4BD/ISE4BD as shown on page 7.16



INSTRUCTIONS

- LCDDisplays present pressure
 Displays ON/OFF setting
 Displays error code
 Displays unit
- LED (Green)Displays switch operation conditions
- LED (Red)Blinks on and off when an error occurs
- SET keySwitches to the setting mode
 When the button is pressed for one second or more, the mode changes to the output mode.
- UP keyIncreases ON/OFF setting value.
 When the button is pressed during pressure display the mode changes to the peak display mode*
- DOWN keyDecreases ON/OFF setting value
 When the button is pressed during pressure display, the mode changes to the bottom display mode. * Used for unit change and output mode change.
- RESETClears anomaly
 Displays "O" (Press up and down key together)

* Peak and bottom display allows the LCD to show the highest and lowest pressures encountered by the switch but normal switch or analogue operation is unaffected.

ERROR INDICATION AND INSTRUCTIONS

When an error occurs, take the following steps.

Display	Situation	Solution
E1 dE E1 dE	Set data is corrupted by some external influence	Push "Reset" and re-insert settings
E2 CE1 E2 CE1	Over current is evident in (Output 1) switch	Switch off power supply. Remove cause of the excess load.
E3 PE E3 PE	>500 kPa pressure applied to vacuum switch. 150% of rated pressure applied to pressure switch	Setting pressure must be less than maximum rated pressures

How To ORDER VACUUM PRESSURE SWITCH SERIES ZSE4

ZSE4B — — — — —

PIPING SPECIFICATIONS

01 ...Direct piping 1/8"

SWITCH SPECIFICATIONS

65 ...3 wire output PNP
 25 ...3 wire output NPN
 26 ...3 wire analogue output

WIRING SPECIFICATIONS

LGrommet entry 3m lead

How To ORDER POSITIVE PRESSURE SWITCH SERIES ISE4

ISE4 B — — — — —

OPERATING PRESSURE

Nil ...10 bar (1.0 MPa)
 L1 bar (100kPa)

PIPING SPECIFICATIONS

01 ...Direct piping 1/8"

SWITCH SPECIFICATIONS

65 ...3 wire output PNP
 25 ...3 wire output NPN
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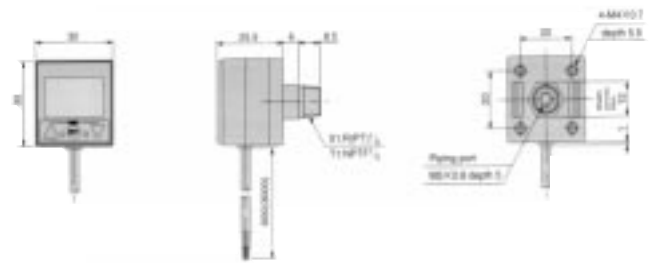
WIRING SPECIFICATIONS

LGrommet entry 3m lead

STOCKED PRODUCTS
 FOR A LIST OF STOCKED PRODUCTS,
 PLEASE SEE THE CURRENT SMC PRICE LIST

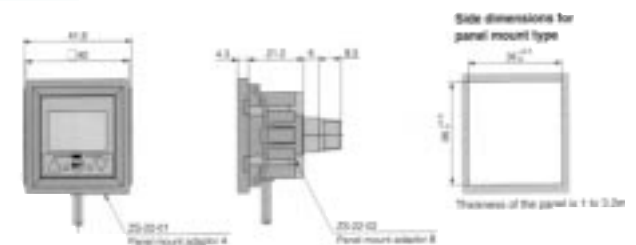
DIMENSIONS

SERIES ZSE4B/ISE4B STANDARD TYPE



DIMENSIONS

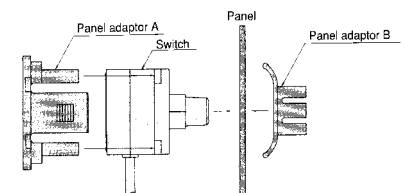
SERIES ZSE4B/ISE4B PANEL MOUNTING TYPE



ACCESSORIES ZSE4/ISE4

Panel Mount Adaptor ZS-22-A

PANEL MOUNTING KIT ZS-22-A



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SEE INSIDE FRONT COVER FOR
 DETAILS OF YOUR LOCAL SALES OFFICE



FOR FURTHER TECHNICAL
 DETAILS ON THIS
 PRODUCT REQUEST
 CATALOGUE REFERENCE
 E603

WATER DROP RESISTANT TYPE DIGITAL INDICATION PRESSURE SWITCH SERIES ZSE4BD/ISE4BD

- ✓ IP66 Environment Protection. This pressure switch is constructed to resist water spray and fine particles for use in adverse environmental conditions.
- ✓ DIN rail mountable
- ✓ Direct wall mountable



TECHNICAL SPECIFICATIONS

As for ZSE4B/ISE4B except:

Weight 110g
 Port size Rc 1/8 (taper female)
 Enclosure IP66 according to IEC 529

BREATHER PIPING METHOD

If there is the possibility that the switch will be used in an atmosphere where there is excessive water, oil or dust around the body, and these substances may enter in through the atmospheric port, insert a Ø4mm tube into this port and pipe away to a cleaner area.

How To ORDER

VACUUM PRESSURE SWITCH SERIES
ZSE4

ZSE4BD — ● — ● — ●

PIPING SPECIFICATIONS

01 ...Direct piping 1/8

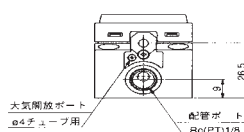
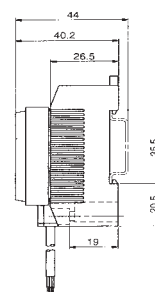
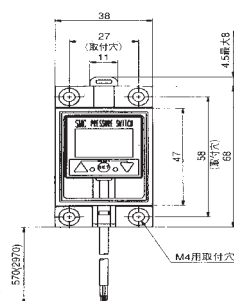
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 26 ...3 wire analogue output

WIRING SPECIFICATIONS

LGrommet entry 3m lead

DIMENSIONS ZSE4BD/ISE4BD



STOCKED PRODUCTS

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How To ORDER

POSITIVE PRESSURE SWITCH SERIES ISE4

ISE4 BD — ● — ● — ●

OPERATING PRESSURE

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 L1 bar (100kPa)

PIPING SPECIFICATIONS

01 ...Direct piping 1/8

SWITCH SPECIFICATIONS

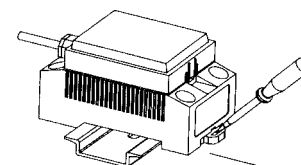
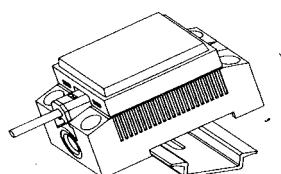
65 ...3 wire output PNP
 25 ...3 wire output NPN
 26 ...3 wire analogue output

WIRING SPECIFICATIONS

LGrommet entry 3m lead

DIN RAIL MOUNTING

To mount, hook on to bottom rail and hand push in direction of arrow.
 To remove, use a screwdriver in the direction shown by the arrow.



FOR FURTHER TECHNICAL
DETAILS ON THIS
PRODUCT REQUEST
CATALOGUE REFERENCE
E603